

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



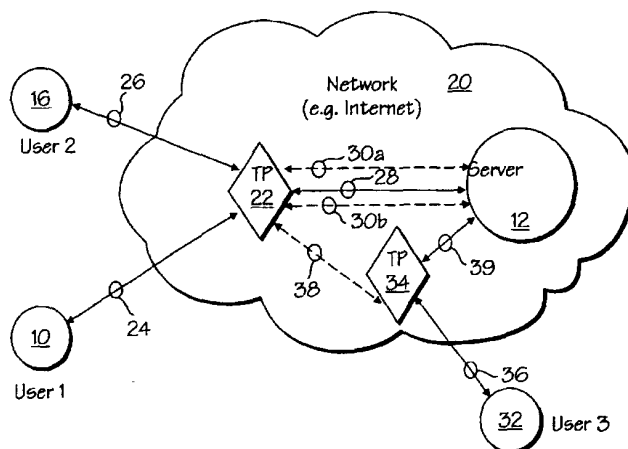
(43) International Publication Date
21 December 2000 (21.12.2000)

PCT

(10) International Publication Number
WO 00/77999 A3

- (51) International Patent Classification⁷: H04L 29/06 (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (21) International Application Number: PCT/US00/11075 (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- (22) International Filing Date: 25 April 2000 (25.04.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/329,903 10 June 1999 (10.06.1999) US
- (71) Applicant: ENTERA, INC. [US/US]; 40971 Encyclopedia Circle, Fremont, CA 94538 (US).
- (72) Inventors: GEAGAN, John, B., III; 1690 Ambergrove Drive, San Jose, CA 95131 (US). KELLNER, Michael, D.; 2506 Kingwood Drive, Santa Clara, CA 95051 (US). PERIYANNAN, Alagu, S.; 34113 Finnigan Terrace, Fremont, CA 94555 (US).
- (74) Agents: FAHMI, Tarek, N. et al.; Blakely, Sokoloff, Taylor & Zafman LLP, 12400 Wilshire Boulevard, 7th floor, Los Angeles, CA 90025 (US).
- Published:
— With international search report.
- (88) Date of publication of the international search report:
26 April 2001
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND APPARATUS FOR DYNAMIC PROXY REFLECTING OF STREAMING CONTENT



(57) Abstract: Multiple content consumers are serviced from a single content source on the basis of an examination of a description of the content requested by the content consumers. That is, a proxy communicatively coupled to the content consumers is configured to examine the requests for content made by the consumers and to determine (e.g., on the basis of meta information associated with the content and/or the content requests, whether live or prerecorded streaming content has been requested. If live content has been requested, the proxy is further configured to dynamically reflect (in a protocol independent fashion) any existing streams that include such content to those of the content consumers that are requesting such content. If prerecorded content is being requested, the proxy is configured to play back a stored version thereof, if available, or to open a connection to the content source for such playback if no stored version of the content is available. In some cases, playbacks of live or stored content from the content source may involve data seaming of multiple connections between the proxy and the content source.

WO 00/77999 A3

Intern. .nal Application No
PCT/US 00/11075

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F H04L H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 893 920 A (IBM)	1-4
Y	27 January 1999 (1999-01-27)	
	abstract	5-7
A	page 3, line 31 - line 34	
	claim 20; figure 1	8-15

X	CHINEN K & YAMAGUCHI S: "An Interactive Prefetching Proxy Server for Improvement of WWW Latency"	1-4, 8, 9, 11, 13, 14
	PROCEEDINGS OF INET: THE INTERNET: THE GLOBAL FRONTIERS, XX, XX,	
	vol. 1/3, 8 June 1997 (1997-06-08),	
	XP002086569	
A	page 1, line 1 - page 2, line 51	5-7, 10, 12, 15
	page 4, line 14 - line 30	

	---/---	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents :

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

*T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

'8' document member of the same patent family

Date of the actual completion of the international search

13 December 2000

Date of mailing of the international search report

21/12/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer _____

Karavassilis, N

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/11075

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99 22316 A (CACHEFLOW INC) 6 May 1999 (1999-05-06) page 1, line 19 -page 3, line 19	1-4, 8, 9, 11, 13, 14
A	page 4, line 23 -page 7, line 4 claim 1 ----	5-7, 10, 12, 15
Y	US 5 539 749 A (EUL HERMANN-JOSEF) 23 July 1996 (1996-07-23)	5-7
A	column 2, line 23 - line 60 ----	10
A	WO 98 40826 A (IBM UK ;IBM (US)) 17 September 1998 (1998-09-17) page 12, line 8 - line 28 page 29, line 19 - line 32 -----	3

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/11075

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0893920	A	27-01-1999	SG 70095 A	25-01-2000
WO 9922316	A	06-05-1999	NONE	
US 5539749	A	23-07-1996	DE 59407765 D	18-03-1999
			EP 0643542 A	15-03-1995
			FI 944226 A	14-03-1995
WO 9840826	A	17-09-1998	AU 6629998 A	29-09-1998
			CN 1250567 T	12-04-2000
			EP 0966712 A	29-12-1999
			JP 2000510626 T	15-08-2000
			PL 335521 A	25-04-2000
			HU 0000799 A	28-07-2000